

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 (Currently Amended): A method of analyzing vocal signals of a speaker, comprising:
~~(λ), characterized in that~~

using a probability density representing ~~the~~ resemblances between a vocal representation of the speaker (λ) in a predetermined model and a predetermined set of vocal representations of a number E of reference speakers in said predetermined model; ~~is used;~~ and

analyzing the probability density ~~is analyzed so as~~ to deduce therefrom information on the vocal signals.

2. (Currently Amended): The method ~~as claimed in~~ of claim 1, ~~characterized in that~~
wherein said predetermined model is an absolute model (GMM), of dimension D, using a mixture of M Gaussians, ~~is taken as predetermined model, for in~~ which the speaker (λ) is represented by a set of parameters comprising weighting coefficients ($\alpha_i, i=1 \text{ to } M$) for the mixture of Gaussians in said absolute model (GMM), mean vectors ($\mu_i, i=1 \text{ to } M$) of dimension D and covariance matrices ($\Sigma_i, i=1 \text{ to } M$) of dimension $D \times D$.

3. (Currently Amended): The method ~~as claimed in~~ of claim 2, ~~characterized in that~~
further comprising:

representing the probability density of the resemblances between the representation of said vocal signals of the speaker (λ) and the predetermined set of vocal representations of the reference speakers ~~is represented~~ by a Gaussian distribution ($\psi(\mu^\lambda, \Sigma^\lambda)$) of mean vector (μ^λ) of dimension E and of covariance matrix (Σ^λ) of dimension $E \times E$, said mean vector and covariance matrix being which are estimated in a the space of resemblances to the predetermined set of E reference speakers.

4. (Currently Amended): The method ~~as claimed in~~ of claim 3, ~~wherein~~ characterized in that the resemblance $(\psi(\mu^\lambda, \Sigma^\lambda))$ of the speaker (λ) with respect to the E reference speakers is defined, ~~for which speaker (λ) there are N_λ segments of vocal signals for the speaker,~~ represented by N_λ vectors of the space of resemblances with respect to the predetermined set of E reference speakers, wherein the resemblance of the speaker with respect to the E reference speakers is defined as a function of a mean vector (μ^λ) of dimension E and of a covariance matrix (Σ^λ) of the resemblances of the speaker (λ) with respect to the E reference speakers.

5. (Currently Amended): The method ~~as claimed in~~ of claim 4, ~~characterized in that~~ further comprising:

introducing a priori information ~~is further introduced~~ into the probability densities of the resemblances $(\psi(\mu^\lambda, \Sigma^\lambda))$ with respect to the E reference speakers.

6. (Currently Amended): The method ~~as claimed in~~ of claim 5, ~~wherein~~ characterized in that the covariance matrix of the speaker (λ) is independent of said speaker $(\bar{\Sigma}^\lambda = \bar{\Sigma})$.

7. (Currently Amended): A system for the analysis of vocal signals of a speaker (λ) , comprising:

databases for storing in which vocal signals of a predetermined set of speakers and ~~their associated~~ vocal representations associated therewith in a predetermined model by mixing of Gaussians ~~are stored,~~ as well as databases of audio archives; and, ~~characterized in that it comprises~~

means for analyzing the vocal signals using a vector representation of the resemblances between the vocal representation of the speaker (λ) and the predetermined set of vocal representations of E reference speakers.

8. (Currently Amended): The system ~~as claimed in~~ of claim 7, ~~characterized in that~~ the databases ~~further store~~ storing parameters of the vocal signals analysis performed by said means for analyzing.

9. (Currently Amended): ~~The use of a method as claimed in~~ of any one of claims 1 to 6,
~~for an claim 1, applied to~~ indexing of audio documents.

10. (Currently Amended): ~~The use of a method as claimed in~~ of any one of claims 1 to 6,
~~for an claim 1, applied to~~ identification of a speaker.

11. (Currently Amended): ~~The use of a method as claimed in~~ of any one of claims 1 to 6,
~~for a claim 1, applied to~~ verification of a speaker.